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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,662	07/13/2001	Yasuhito Inagaki	09792909-5081	5976

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SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

KORNAKOV, MICHAEL

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,662

Applicant(s)

INAGAKI ET AL.

Examiner

Michael Kornakov

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,8-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,8-13,18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 6,8-16 and 18-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/25/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2005 has been entered.
2. A certified translation of Applicants' Japanese Application No. P2000-240134, as required by 35 U.S.C. 119(b) is acknowledged. Therefore, the effective filing date of the reference to U.S. Patent No. 6,497,23 (Knotter) is predated and the U.S. Patent No. 6,497,23 (Knotter) is withdrawn from the scope of rejections.
3. Claims 6, 8-16, 18-22 are currently pending. Claims 14-16, 20-22 were previously withdrawn from consideration as being drawn to non-elected inventions.
4. Claims 6, 8-13, 18, 19 are examined on the merits.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The limitation "**arithmetically** processing" has been initially presented in claim 7, however it was omitted from the instant specification. Appropriate correction is required.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 6, 8-10, 12, 13, 18, 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoffman et al (U.S. 6,350,425).

Hoffman teaches a substrate processing system comprising a mixing tank 306 to contain aqueous solution of ammonium fluoride or buffered HF, the mixing tank can be the point of use, in which the substrates are processed; ammonia feeding means 314 for feeding ammonia from ammonia source 302 to the mixing tank; measuring means 328 for measuring hydrofluoric acid concentration; control system for automatically operate the valves, including ammonia supply valve 318, to regulate the amount of materials introduced into the mixing tank. The concentration measuring means may include conductivity, density, index of refraction or infrared spectroscopy measuring equipment, volumetric or gravimetric scale (col. 9, lines 10-67; col.10, lines 1-6, 18-27, 34-37, 53-61; col.11, lines 8-11, 39-44, 65-67). Therefore, all the limitations of the instant claims are met by Hoffman.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al (U.S. 6,350,425) in view of Pham et al (U.S. 6,156,944) or Swain et al (U.S. 5,895,639), each one individually.

While teaching variety of measuring means for measuring concentration of hydrofluoric acid, Hoffman does not specifically indicate measuring means consisting of liquid (ion) chromatography. However measuring concentration of HF by liquid (ion) chromatography and, therefore, means for applying liquid (ion) chromatography are also

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known in the art. Thus, Pham and Swain both utilize liquid ion chromatography to determine the concentration of HF within the solution. The simplicity of implementation of liquid ion chromatography is also known in the art. Therefore, one skilled in the art may choose liquid ion chromatography among the other known concentration measuring techniques and in lieu of measuring techniques proposed by Hoffman in order to simplify measuring concentration of HF and provide relatively inexpensive measuring means in the teaching of Hoffman.

Election/Restrictions

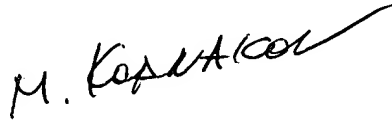
12. It is noted that this application contains claims directed to the following patentably distinct species of the claimed invention: the species of measuring means, listed in claim 8, claim 9, claim 10, claim 11. The election of species requirement is not made at this time, however it may be imposed later if the claims are amended, which would require additional search.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "M. Kornakov", with a long, sweeping horizontal stroke extending to the right.

Michael Kornakov
Primary Examiner
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02/08/2006